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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,002	05/10/2001	Soo-Han Park	1349.1024	4122

21171 7590 10/25/2006

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EXAMINER

CHU, KIM KWOK

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 10/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/852,002

Applicant(s)

PARK, SOO-HAN

Examiner

Kim-Kwok CHU

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 8/18/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,5-12,15-17,20-27 and 29-32 is/are allowed.
- 6) ☒ Claim(s) 3,4,13,14,18,19 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5/10/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Response to Remarks

1. Applicant's Remarks filed on August 18, 2006 have been fully considered but it is not persuasive.

With respect to the rejected Claims 3 and similar Claims 13 and 18, Applicant states that the prior art of Mori does not discuss or suggest that "the diffraction grating selectively splits the first and second laser beams, depending on which optical disk is to be accessed" (page 16 of the Remarks, lines 10 and 11). Accordingly, the prior art of Mori teaches a diffraction grating 3 selectively splits the first and second laser beams into 3 rays by means of diffraction efficiency (column 8, lines 54-65). In other words, the first and second light beams are splited/diffracted by the diffraction grating 3 based on different (selected) diffractive efficiency.

Furthermore, Applicant states that the prior art of Mori does not discuss or suggest that "a single photodetector selectively receives rays of the first beam and the second beam" (page 16 of the Remarks, lines 15-17). Accordingly, the prior art of Mori in Fig. 1 teaches a single (uniform) photodetector 7 and 8. The regions 7, 8 of the photodetector forms a single and uniform photodetector means. Similarly, Applicant's photodetector is divided into different separated regions as illustrated in Figs. 3 and 4.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

3. Claims 3, 4, 13, 14, 18, 19 and 28 are rejected under 35 U.S.C. § 102(b) as being anticipated by Mori et al. (U.S. Patent 5,717,674).

4. Mori teaches a compatible disk player having all the elements and means as cited in claims 3 and 4. For example, Mori teaches the following steps:

(a) as in claim 3, a first laser diode 1 emits a first laser beam to a first optical disk; (Fig. 1; column 6, lines 30-40);

(b) as in claim 3, a second laser diode 2 emits a second laser beam to a second optical disk; (Fig. 1; column 6, lines 30-40));

(c) as in claim 3, a single diffraction grating 3 selectively splitting the first and the second laser beams into three rays depending on which optical disk is to be accessed (Fig. 1; column 8, lines 54-65);

(d) as in claim 3, the three rays comprise a main ray and two sub-rays depending on which optical disk to be accessed (Fig. 1; column 8, lines 54-65);

(e) as in claim 3, a photodetector 7, 8 selectively receiving the three rays of the first laser beam and the three rays of the second laser beam at different detecting portions for data recording and/or reproduction and error detection and compensation (Fig. 1; column 10, last 2 lines to column 11, first 11 lines);

(f) as in claim 3, the detecting portions (in photodetector 7, 8) comprise a central detecting portion 7a and two peripheral detecting portions 7b (Figs. 1 and 7; each detecting portion such as 7 has the claimed three regions);

(g) as in claim 3, receives the main ray of the first laser beam on the central detecting portion to determine a focus error (Fig. 1; column 10, last 2 lines to column 11, first 11 lines); and

(h) as in claim 4, the photodetector 7, 8 receives the sub-rays of the first laser beam on the peripheral detecting portions to determine a tracking error Fig. 1; column 10, last 2 lines to column 11, first 11 lines).

5. Claims 13 and 14 have limitations similar to those treated in the above rejection, and are met by the references as discussed above. Claim 13 however also recites the following limitations which are also taught by the prior art of Mori et al.

(a) the photodetector is a six-split photo-detector comprising four cells on a central detecting portion and two cells on peripheral detecting portions (Fig. 7).

6. Mori teaches a method of recording and/or reproducing data with a compatible optical disk player having all the steps as cited in claims 18 and 19. For example, Mori teaches the following steps:

(a) as in claim 18, emitting a first laser beam to a first optical disk; (Fig. 1; column 6, lines 30-40);

(b) as in claim 18, emitting second laser beam to a second optical disk; (Fig. 1; column 6, lines 30-40));

(c) as in claim 18, selectively splitting the first and the second laser beams into three rays depending on which optical disk is to be accessed (Fig. 1; column 8, lines 54-65);

(d) as in claim 18, the three rays comprise a main ray and two sub-rays depending on which optical disk to be accessed (Fig. 1; column 8, lines 54-65);

(e) as in claim 18, selectively receiving the three rays of the first laser beam and the three rays of the second laser beam at different detecting portions 7, 8 for data recording and/or reproduction and error detection and compensation (Fig. 1; column 10, last 2 lines to column 11, first 11 lines);

(f) as in claim 18, the detecting portions 7, 8 comprise a central detecting portion 7a and two peripheral detecting portions 7b (Figs. 1 and 7; each detecting portion such as 7 has the claimed three regions);

(g) as in claim 19, receives the main ray of the first laser beam on the central detecting portion to determine a focus error (Fig. 1; column 10, last 2 lines to column 11, first 11 lines); and

(h) as in claim 19, receives the sub-rays of the first laser beam on the peripheral detecting portions to determine a tracking error Fig. 1; column 10, last 2 lines to column 11, first 11 lines).

7. Mori teaches a method of recording and/or reproducing data with a compatible optical disk player having all the steps as cited in claim 28. For example, Mori teaches the following steps:

(a) as in claim 28, selectively emitting a first laser beam of a first wavelength recording and/or reproducing the data on/from a first optical disk comprising a first recording density; (Fig. 1; column 6, lines 30-40);

(b) as in claim 28, selectively emitting a second laser beam of a second wavelength recording and/or reproducing the data on/from a second optical disk comprising a second recording density; (Fig. 1; column 6, lines 30-40);

(c) as in claim 28, selectively splitting the first and the second laser beams with a single diffraction grating 3 into a main ray and two sub-rays depending on which optical disk is to be accessed (Fig. 1; column 8, lines 54-65);

(d) as in claim 28, the main ray is a zero order light and the sub-rays are first order lights (Fig. 1; column 8, lines 54-65);

(e) as in claim 28, selectively reflecting (diffracting) the first laser beam toward the first optical disk and the second laser beam toward the second optical disk (Fig. 1);

(f) as in claim 28, selectively focusing the first laser beam toward the first optical disk and the second laser beam toward the second optical disk (Fig. 1);

(g) as in claim 28, selectively receiving the three rays of the first laser beam and the three rays of the second laser beam at different detecting portions 7, 8 for data recording and/or reproduction and error detection and compensation (Fig. 1; column 10, last 2 lines to column 11, first 11 lines); and

(h) as in claim 28, the detecting portions 7, 8 comprise a central detecting portion 7a and two peripheral detecting portions 7b (Figs. 1 and 7; each detecting portion such as 7 has the claimed three regions).

Allowable Subject Matter

8. Claims 1, 2, 5-12, 15-17 20-27 and 29-32 are allowable over prior art.

9. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

As in claim 1, the prior art of record fails to teach or fairly suggest the following features:

(a) a diffraction grating splitting the first and second laser beams into a main ray and sub rays according to movement of the diffraction grating between a first position and a second position along an optical axis; and

(b) a photo-detector having a central portion and at least one peripheral portion, the central portion receiving the main ray of the first laser beam based on the first position of the diffraction grating and at least one of the peripheral portions receiving the main ray of the second laser beam based on the second position of the diffraction grating, wherein the first and the second laser diodes are formed in one package.

As in claims 5, 17, 20 and 32, the prior art of record fails to teach or fairly suggest the following features:

(a) the photodetector receives the main ray of the second laser beam on one of the peripheral detecting portions to

record and/or reproduce the data on/from the second optical disk; and

(b) the photodetector receives, one of the two sub-rays of the second laser beam on the central detecting portion to determine a focus error and a tracking error on the second optical disk.

As in claims 12 and 27, the prior art of record fails to teach or fairly suggest the following features:

(a) an error occurring due to initial positions of the first laser diode and the second laser diode is compensated for by selectively moving the diffraction grating between a first position and a second position; and

(b) the first position being such that the main ray of the first laser beam is incident on the central detecting portion, while the two sub-rays are incident on the peripheral detecting portion, and the second position being such that the main ray of the second laser beam is incident on one of the peripheral detecting portions, while one of the two sub-rays is incident on the central detecting portion.

As in claims 15 and 30, the prior art of record fail to teach or fairly suggest the following features:

(a) receiving the main ray of the first laser beam on four cells of the central detecting portion to determine a

focus error and to record and/or reproduce the data on/from the first optical disk;

(b) receiving the sub-rays of the first laser beam on two cells of the peripheral detecting portions, respectively, to determine a tracking error;

(c) receiving the main ray of the second laser beam on one of the two cells of the peripheral detecting portions to record and/or reproduce the data on/from the second optical disk; and

(d) receiving one of the two sub-rays of the second laser beam on the four cells of the central detecting portion to determine a focus error and a tracking error on the second optical disk.

As in claim 29, the prior art of record fails to teach or fairly suggest the following features:

(a) detecting the main ray of the first laser beam arranged on an optical axis from a central detecting portion of a photo-detector to record and/or reproduce the data on/from the first optical disk; and

(b) detecting the main ray of the second laser beam strayed from the optical axis from one of peripheral detecting portions of the photo-detector to record and/or reproduce the data on/from the second optical disk.

The features indicated above, in combination with the

other elements of the claims, are not anticipated by, nor made obvious over, the prior art of record.

10. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action

11. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch, can be reached on (57) 272-7589.

The fax number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).

Kim-Kwok CHU

kc 10/18/2006
Examiner AU2627
October 18, 2006

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